

WHAT IS CLAIMED IS:

1 1. An isolated nucleic acid comprising the
2 nucleotide sequence SEQ ID NO:2 as depicted in FIG. 3, or
3 the nucleotide sequence of a gene or gene fragment contained
4 in the following clone as deposited with the NRRL: pFOMY030
5 (NRRL accession No. B-21416).

1 2. An isolated nucleic acid which encodes the
2 amino acid sequence depicted in Fig. 3 from amino acid
3 residue number 1 to 542, or its complement.

1 3. An isolated nucleic acid which hybridizes to an
2 isolated nucleic acid which encodes the amino acid sequence
3 depicted in Fig. 3 from amino acid residue number 1 to 542,
4 or its complement.

1 4. A genetically engineered host cell comprising
2 the nucleotide sequence of Claim 2.

1 5. An expression vector comprising the nucleotide
2 sequence of Claim 2 in operative association with a
3 nucleotide sequence regulatory element that controls
4 expression of the nucleotide sequence in a host cell.

1 6. A substantially pure gene product encoded by the
2 nucleic acid of Claim 3.

1 7. An isolated nucleic acid comprising the
2 nucleotide sequence SEQ ID NO:6 as depicted in FIG. 5, or
3 SEQ ID NO:8 as depicted in FIG. 6.

1 8. An isolated nucleic acid which encodes the amino
2 acid sequence depicted in Fig. 5 from amino acid residue
3 number 1 to 1497, or its complement. ✓

1 9. An isolated nucleic acid which encodes the amino ✓
2 acid sequence depicted in Fig. 6 from amino acid residue
3 number 1 to 1533, or its complement.

1 10. An isolated nucleic acid which hybridizes to a ✓
2 nucleic acid that encodes the amino acid sequence depicted
3 in Fig. 5 from amino acid residue number 1 to 1497 (SEQ ID
4 NO:7), or its complement, or the amino acid sequence
5 depicted in Fig. 6 from amino acid residue number 1 to 1533
6 (SEQ ID NO:9), or its complement.

1 11. A nucleotide vector containing the nucleotide
2 sequence of Claim 10.

1 12. A genetically engineered host cell containing
2 the nucleotide sequence of Claim 10.

1 13. An expression vector containing the nucleotide
2 sequence of Claim 10 in operative association with a
3 nucleotide sequence regulatory element that controls
4 expression of the nucleotide sequence in a host cell.

1 14. A substantially pure gene product encoded by
2 the nucleic acid of Claim 10.

1 15. An antibody that immunospecifically binds the
2 gene product of Claim 14.

1 16. A method of diagnosing tumor progression in a
2 mammal, said method comprising:
3 obtaining a test sample of tissue cells from the
4 mammal; -
5 obtaining a control sample of known normal cells
6 from the same type of tissue; and
7 detecting in both the test sample and the control
8 sample the level of expression of a gene transcript or gene
9 product of gene 030, wherein a level of expression lower in
10 the test sample than in the control sample indicates a tumor
11 progression state in the test sample.

1 17. A method for treating tumor progression in a
2 mammal, said method comprising administering to the mammal a
3 compound in an amount effective to increase the level of
4 expression or activity of a gene transcript or gene product
5 of gene 030 in cells exhibiting a tumor progression state,
6 to a level effective to ameliorate symptoms of the tumor
7 progression state.

1 18. A method of Claim 17, wherein the compound
2 comprises a nucleic acid whose administration results in an
3 increase in the level of the differentially expressed gene
4 transcript and gene product in the cells in the tumor
5 progression state, thereby ameliorating symptoms of the
6 tumor progression state.

1 19. A method of Claim 18, wherein the nucleic acid
2 comprises a nucleic acid of gene 030.

1 20. A method of Claim 17, wherein the compound is a
2 030 gene product.

1 21. A method of Claim 17, wherein the tumor
2 progression state is neoplasia.

1 22. A method of Claim 17, wherein the tumor
2 progression state is metastasis.

1 23. A method for inhibiting tumor progression in a
2 mammal, said method comprising administering to the mammal a
3 normal allele of a O30 gene so that the normal gene product
4 is expressed, thereby inhibiting tumor progression.

1 24. A method of Claim 23, wherein the tumor
2 progression is metastasis.

1 25. A method for treating tumor progression in a
2 mammal, said method comprising administering to the mammal
3 an effective amount of a O30 gene product.

1 26. A method of Claim 25, wherein the tumor
2 progression is metastasis.

1 27. A method of monitoring the efficacy of a
2 compound in clinical trials for inhibition of tumor
3 progression in a patient, said method comprising
4 obtaining a first sample of tumor tissue cells from
5 the patient;
6 administering the compound to the patient;
7 after a time sufficient for the compound to inhibit
8 tumor progression, obtaining a second sample of tumor tissue
9 cells from the patient; and
10 detecting in the first and second samples the level
11 of expression of a 030 gene transcript or product, wherein a
12 level of expression higher in the second sample than in the
13 first sample indicates that the compound is effective to
14 inhibit tumor progression in the patient.

1 28. A method of Claim 27, wherein the 030 gene
2 transcript or gene product is differentially expressed in
3 individuals predisposed to a metastatic neoplastic disease.

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